



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D4883-7
Job Sheet 187116



Part No: D4883-7

Job Qty: 6 ea

Part Name: End Fitting



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 11/28/18

Job Tracking No:

Due Date: 12/14/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	6 Ea	12/14/18	12/14/18	0.00	0.00	Start Up Machining-3		
100	CNC Lathe	6 pcs	12/14/18	12/14/18	0.00	6.11	Doosan		
120	CNC Vertical Machining	6 pcs	12/14/18	12/14/18	0.00	6.11	HAAS1-5		
130	QC	6 pcs	12/14/18	12/14/18	0.00	0.00	QC2 Machining-3		
140	QC	6 pcs	12/14/18	12/14/18	0.00	0.00	QC8 Machining-3		
150	Outsource	6 pcs	12/14/18	12/14/18			SKY002-VC	2	
160	Packaging	6 pcs	12/14/18	12/14/18	0.00	0.00	Packaging2		
190	QC	6 pcs	12/14/18	12/14/18	0.00	0.00	QC5		
200	Packaging	6 pcs	12/14/18	12/14/18	0.00	0.00	Packaging3-2		
210	QC21-SA	6 Ea	12/14/18	12/14/18	0.00	0.00	QC21		

Part Op 100 - 1- Turn as per Dwg. D4883-7 Turning Detail & Folio FB255. 2- USE DT10006 For sizing blanks.
Descriptions: 120 - 1-Machine as per Folio Fb255 & Dwg D4883-7 END FITTING. deburr and Break all sharp edges
130 - QC2- Inspect parts off machine FAI/FAIB
140 - QC8- Inspect parts - second check
150 - Outsource process - NDT per QSI038 4.1 Issue P/O: _____ LPI Per ASTM 1417 LEVEL 2
Certificate of conformity is required.
160 - Receive & Inspect for Damage & Mat'l Certs Certificate of conformity is req'd.
190 - QC5- Inspect part completeness to step on W/O
200 - Identify as per dwg & Stock Location: _____
210 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M17-4-H900-R2.000	17-4 SS H900 Round Bar 2.000"	1.4220 ft (237 ea)	90-Start up Operation	5/20/17

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	M17-4-H900-R2.000	1	17	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	End Fitting	0.500Inches + 0.006 - 0.001	0.506 0.499	501	
2	End Fitting	0.030Inches ± 0.030	0.060	1032	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/D ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incompl ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomp ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐			
Misidentified ☐	Past Due ☐				

Instructions: Various STC's
 Exp Date:
 Inspector:
 Revision:
 Serial No/ Batch: S140145
 Job No: 187116
 Part: D4883-7
 Container No: S140145
 DART AEROSPACE
 1270 Aberdeen Street
 Hawkesbury, ON K6A 1K7
 CANADA
 TEL: 1 813 632-5200
 Email: sales@dartaero.com
 www.dartaero.com

			0.000	
3	End Fititng	0.017Inches ± 0.030	0.047 (0.013)	.018
4	End Fititng	0.430Inches ± 0.030	0.460 0.400	.4315
5	End Fititng	0.500Inches ± 0.010	0.510 0.490	.500
6	End Fititng	1.460Inches ± 0.030	1.490 1.430	1.462
7	End Fititng	0.670Inches + 0.000 - 0.001	0.670 0.669	.6697
8	End Fititng	1.410Inches ± 0.030	1.440 1.380	1.411
9	End Fititng	0.125Inches + 0.004 - 0.001	0.129 0.124	.127
10	End Fititng	0.930Inches ± 0.030	0.960 0.900	0.929"
11	End Fititng	0.020Inches ± 0.010 0.20	0.030 0.010	0.203"
12	End Fititng	45.0Degrees ± 0.5	45.5 44.5	45°
13	End Fititng	0.063Inches ± 0.010	0.073 0.053	
14	End Fititng	0.300Inches ± 0.030	0.330 0.270	
15	End Fititng	0.130Inches ± 0.030	0.160 0.100	R0.125" Radius
16	End Fititng	0.750Inches + 0.030 - 0.000	0.780 0.750	0.735"
17	End Fititng	0.930Inches ± 0.030	0.960 0.900	0.929"
18	End Fititng	0.060Inches ± 0.030	0.090 0.030	R0.063" Radius
19	End Fititng	1.633Inches ± 0.005	1.638 1.628	
20	End Fititng	2.790Inches ± 0.030	2.820 2.760	
21	End Fititng	0.090Inches ± 0.010	0.100 0.080	0.090"
22	End Fititng	0.750Inches ± 0.030	0.780 0.720	0.749"
23	End Fititng	0.249Inches ± 0.010	0.259 0.239	0.2493"
24	End Fititng	0.380Inches ± 0.030	0.410 0.350	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐					
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Dart Aerospace Ltd. 1270 Aberdeen Street Newkensbury, ON K64 1K7 CANADA TEL: 1 613 632-6200 Email: sales@dartaero.com www.dartaero.com Container No: S140145 Part: D4883-7 Job No: 187116 Serial No/Batch: S140145 Revision: Inspector: Exp Date: Instructions: Various STC's Date: 12/23/18				Completed By																							
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Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ OTHER : ☐		CATEGORY <table style="width:100%;"> <tr> <td>☐ Power Loss/Surge</td> <td>☐ Positioned Wrong</td> </tr> <tr> <td>☐ Folio/Program</td> <td>☐ Outside Dimensions</td> </tr> <tr> <td>☐ Grain</td> <td>☐ Over/Under tolerance</td> </tr> <tr> <td>☐ Weld</td> <td>☐ Part Incorrect</td> </tr> <tr> <td>☐ Wrong Stock Pulled</td> <td>☐ Part Lost/Missing</td> </tr> <tr> <td>☐ Out of Sequence</td> <td>☐ Part Moved</td> </tr> <tr> <td>☐ Off-set</td> <td>☐ Drawing</td> </tr> <tr> <td>☐ Misabeled</td> <td>☐ Finish</td> </tr> <tr> <td>☐ Fit/Function</td> <td>☐ Misread</td> </tr> <tr> <td>☐ Misaligned/off center</td> <td>☐ Turning Sequence</td> </tr> </table>		☐ Power Loss/Surge	☐ Positioned Wrong	☐ Folio/Program	☐ Outside Dimensions	☐ Grain	☐ Over/Under tolerance	☐ Weld	☐ Part Incorrect	☐ Wrong Stock Pulled	☐ Part Lost/Missing	☐ Out of Sequence	☐ Part Moved	☐ Off-set	☐ Drawing	☐ Misabeled	☐ Finish	☐ Fit/Function	☐ Misread	☐ Misaligned/off center	☐ Turning Sequence
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DART AEROSPACE LTD		Work Order: 187116
Description: END FITTING		Part Number: D4883-7
Inspection Dwg: D4883 Rev: C		Page 1 of 1

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
φ0.500	+0.006/-0.001	φ0.500	✓		Vern	GA-13
0.030	+/-0.010	0.038	✓		"	"
0.017	+/-0.010	0.015	✓		"	"
0.43	+/-0.030	0.433	✓		H-6	31006
0.500	+/-0.010	0.500	✓		"	"
1.46	+/-0.030	1.458	✓		Vern	GA-13
φ0.670	+0.000/-0.001	φ0.6698	✓		Mic	GA-03
1.41	+/-0.030	1.410	✓		Vern	GA-13
R0.031	+/-0.010	R0.032	✓		R-6	ref.
φ0.90	+/-0.030	φ0.912	✓		Vern	GA-13
φ0.125	+0.004/-0.001	φ0.126	✓		"	"
29.7°	+/- 1/2°	29.7°	✓		Angle M	CNC-17
30.3°	+/- 1/2°	30.3°	✓		"	"
0.750	+/-0.030	0.750	✓		Vern	GA-13
0.090	+/-0.010	0.090	✓		Mic	GA-03
φ0.250	+0.000/-0.001	φ0.2493	✓		Inside Mic	CNC-15
2.81	+/-0.030	2.808	✓		H-6	31006
1.646	+/-0.005	1.650	✓		H-6	31006
27°	+/- 1/2°	27°	✓		Angle M.	CNC-17
R0.06	+/-0.030	R0.063	✓		R-6	ref.
0.85	+/-0.030	0.846	✓		Vern	GA-13
0.080	+/-0.010	0.082	✓		Mic	GA-03
0.32	+/-0.030	0.319	✓		H-6	31006
52°	+/- 1/2°	52°	✓		Angle M.	CNC-17
R0.130	+/-0.030	R0.125	✓		R-6	ref.
105°	+/- 1/2°	105°	✓		Angle M.	CNC-17
0.75	+/-0.030	0.755	✓		H-6	31006
0.20 X 45°	+/-0.030 X +/- 1/2°	0.198 X 45°	✓		Vern	GA-13

Measured by: Ba	Checked by: Amf	QC Inspector:
Date: 19-04-20	Date: 19/04/23	Date:

Engineering Approval: (If necessary)	Date:
--	--------------

Rev	Date	Change	Revised by	Approved
B	14.07.31	New Issue	KJ	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043372



Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

Attention: Jenne, Heather

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB043372

PO Date: 5/3/19

Due Date: 5/7/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	187116	D4883-7	End Fitting : Various STC's Outsource process - NDT per QSI038 4.1 Issue P/O: LPI Per ASTM 1417 LEVEL 2 Certificate of conformaty is required.	Firmed	-	5/7/19	6 pcs	0 pcs	6 pcs	\$18.50/pcs	\$111.00
2	187764	D4884-3	End Fitting, Eye : Various STC's Outsource process - NDT per QSI038 4.1	Firmed	-	5/7/19	6 pcs	0 pcs	6 pcs	\$18.50/pcs	\$111.00
3	192351	D407-667-105	Fwd Crosstube - High 407 : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 Outsource process - NDT per QSI038 4.1 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** OUTSIDE SERVICE -CROSSTUBES Liquid Penetrant Inspection as per QSI 038 Or Level 2 Attach copy of NDT results to work order	Firmed	-	5/7/19	1 pcs	0 pcs	1 pcs	\$111.00/pcs	\$111.00
	186544		IX MAY 07 2019	Firmed	-	5/7/19	1 pcs	0 pcs	1 pcs	\$111.00/pcs	\$111.00
	186545		IX MAY 07 2019	Firmed	-	5/7/19	1 pcs	0 pcs	1 pcs	\$111.00/pcs	\$111.00
	186546		IX MAY 07 2019	Firmed	-	5/7/19	1 pcs	0 pcs	1 pcs	\$111.00/pcs	\$111.00
Sub Total:							4	0	4		\$444.00



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PURCHASE ORDER

POHB043372



Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
4	194162	D212-664-101	Fwd Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	5/7/19	1 pcs	0 pcs	1 pcs	\$111.00/pcs	\$111.00
	194167		<i>IX</i> MAY 07 2019	Firmed	-	5/7/19	1 pcs	0 pcs	1 pcs	\$111.00/pcs	\$111.00
	194161		<i>IX</i> MAY 07 2019	Firmed	-	5/7/19	1 pcs	0 pcs	1 pcs	\$111.00/pcs	\$111.00
	194164		<i>IX</i> MAY 07 2019	Firmed	-	5/7/19	1 pcs	0 pcs	1 pcs	\$111.00/pcs	\$111.00
Sub Total:							4	0	4		\$444.00
5	192361	D407-667-205	Aft Crosstube - High 407 : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038O	Firmed	-	5/7/19	1 pcs	0 pcs	1 pcs	\$111.00/pcs	\$111.00
	194110		<i>IX</i> MAY 07 2019	Firmed	-	5/7/19	1 pcs	0 pcs	1 pcs	\$111.00/pcs	\$111.00
	194111		<i>IX</i> MAY 07 2019	Firmed	-	5/7/19	1 pcs	0 pcs	1 pcs	\$111.00/pcs	\$111.00
Sub Total:							3	0	3		\$333.00
Grand Total:										\$1,443.00	



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PURCHASE ORDER

POHB043372



Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 5/7/19 10:43 AM Dart.Guerin.Kimberley

**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO40272	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: POHB043372 ✓
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:**CARRY OUT NDT ON:**

✓ 4 FWD CROSSTUBES, P/N# D407-667-105, J/S# 192351, 186544, 186545, 186546 ✓

✓ 4 FWD CROSSTUBES, P/N# D212-664-101, J/S# 194161, 194162, 194164, 194167 ✓

✓ 3 AFT CROSSTUBES, P/N# D407-667-205, J/S# 194110, 192361, 194111 ✓

✓ 6 END FITTINGS, P/N# D4883-7, J/S# 187116 ✓

DAS
40
9-89

✓ 6 END FITTING EYE, P/N# D4884-3, J/S# 187764 ✓

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16						MAY 03 2019	 DOT-APP 20 53-89
NO CRACK FOUND							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923, DEV. MPO11715 , UV LIGHT M-20142							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp 	Date: MAY 03 2019
Name: RAFIK MELIKIAN		